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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,171	08/16/2000	Yoshihiro Tsukamura	SON-1889	4002

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EXAMINER

HESELTIME, RYAN J

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 01/14/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/639,171

Applicant(s)

TSUKAMURA ET AL.

Examiner

Ryan J Hesseltine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments on page 6, second paragraph, filed October 17, 2003 with respect to claim 4 have been fully considered and are persuasive. The objection of claim 4 has been withdrawn.
2. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 6-9 are objected to because of the following informalities: line 1 in each of the claims states "The method of claim 5, further comprising..." whereas claim 5 is a fingerprint collating *system*. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda et al. (USPN 6,490,366, previously cited), hereafter Haneda.
6. Regarding claims 1 and 4, Haneda discloses a fingerprint collating device and method for collating a user's fingerprint with registered fingerprint information to effect personal authentication (column 3, line 65-column 4, line 3), said device and method comprising: a computer (Figure 1); a fingerprint reader (6, 15) for reading said fingerprint to create read

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fingerprint information (column 4, line 50-column 5, line 2), and to create read history information (fingerprint storage flag 25-3) indicating that said read fingerprint information has been created (column 7, line 18-41); a read history storage (24) for storing said read history information (column 7, line 18-23) and sending a signal to a central control section 25 when instructed by the distribution pattern detection section 22 (column 5, line 32-37); and a collator (23) collating said read fingerprint information with said registered (previously stored) fingerprint information (column 5, line 50-59) to effect personal authentication and output a result of authentication when said read history information is stored in said read history storage (column 7, line 36-52) and the signal is sent to the central control section 25 when the distribution of captured data coincides with a specific pattern (column 5, line 32-37). Haneda discloses that the entire system is included within an information processing apparatus such as a laptop computer or a portable telephone (Figures 1 and 2), and does not explicitly disclose that the fingerprint collating device comprises a computer external to the fingerprint reader, but this is an obvious variant since the fingerprint reader could simply be a removable device such as an IC card or a peripheral device connected through a cable or wireless transmitter. Haneda does not explicitly disclose that a control program is executed in read history storage (24) when instructed by an external computer, but it is disclosed that a distribution pattern detecting section 22 outputs a signal to a central control section 25, which sets a power flag 25-2 to turn on a power source if the distribution of light (general shape) reflected from the user's finger coincides with a specific pattern indicating the presence of a finger (column 5, line 15-37). Once it has been determined that there is a finger present and the power flag has been set, the power supplied by battery 26 is turned on and the control section detects a fingerprint (if secret mode is released)

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based on data in the sensor memory 20 which is collated with a fingerprint previously stored in a fingerprint information storage section (column 5, line 38-49). In the specification, applicant discloses that the read history storage is supplied by a program random access memory (RAM) 32, which both stores the read history information and executes a control program. The examiner takes Official Notice that random access memory is well known in the art for executing programs and storing data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Haneda's central control section 25 as a software program and run it in the fingerprint information storage 24, which could very well be random access memory, as well as storing the fingerprint storage flag 25-3 in the same, in order to allow the central control section to quickly and easily set and unset the fingerprint storage flag during operation and reduce the number of memory chips needed in the device.

7. Regarding claim 3, Haneda discloses registered (previously stored) fingerprint information storage (24) for storing said registered fingerprint information, in which said collator effects said personal authentication by using said registered fingerprint information stored in said registered fingerprint information storage (column 5, line 50-55; column 7, line 6-14).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda as applied to claim 1 above, and further in view of Senior (USPN 6,400,836, previously cited).

9. Regarding claim 2, Haneda does not disclose that said registered fingerprint information is supplied from an external storage medium. Senior discloses a combined fingerprint acquisition and control device wherein a collator effects personal authentication by using registered fingerprint information (fingerprint database) supplied from an external storage

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medium (removable smart card or other data storage device; column 10, line 12-16). Senior does not explicitly disclose that said registered fingerprint information includes a fingerprint template that corresponds to an owner of the external storage medium, but it is obvious if not inherent that a removable smart card containing a fingerprint database would contain a template of the person carrying it who wishes to be identified. The examiner takes Official Notice that external storage media such as smart cards storing registered fingerprint information corresponding to an owner of the smart card is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to effect personal authentication using registered fingerprint information supplied from an external storage medium corresponding to an owner of the storage medium as taught by Senior in order to allow the owner of the storage medium to be identified at any number of remote locations such as bank ATMs, automatic ticketing systems, electronic cash registers, dedicated information kiosks, etc. (column 10, line 53-67).

10. Claims 5, 6, 8, 10, 11, 13-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda in view of Matsumura (USPN 5,493,621, previously cited).

11. Regarding claims 5 and 10, Haneda discloses a method for collating a fingerprint in a fingerprint collating system that includes a personal computer and a collating unit (Figure 1; column 3, line 65-column 4, line 3) comprising: means (27) for generating a collation (driving) instruction (column 5, line 15-16); means (6-3) for illuminating a bottom face of a prism (glass section 6-1) based on the collation instruction (column 5, line 15-24); means (22) for generating a fingerprint image of a user when an air layer exists between a finger of a user and a top face of the prism (column 5, line 25-31); means (25) for setting a fingerprint accepting flag (25-3) in a

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first memory unit to indicate that a fingerprint image has been generated (column 7, line 18-23); means (25) for reading a fingerprint template (previously stored) from a second memory unit (24; column 5, line 38-48); and means (23) for collating the fingerprint image and the fingerprint template when the fingerprint image of the user is generated and the fingerprint accepting flag is set (column 5, line 49-54; column 7, line 24-41). Haneda does not explicitly disclose that a fingerprint image of a user is generated when an air layer exists between a finger of a user and a top face of the prism. The examiner takes Official Notice that this is commonly known as total internal reflection and is well known in the fingerprinting art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the concept of total internal reflection to create a fingerprint image when an air layer exists between a user's finger and a prism face in order to obtain a clear and accurate fingerprint image.

12. Haneda also does not disclose a means for generating an index number that is associated with the fingerprint template that is read from a second memory unit. Matsumura discloses a fingerprint ID system and method wherein, in the course of fingerprint registration, an ID number or password is input as an index of the registered fingerprint data (column 11, line 44-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate an index number associated with the fingerprint template as taught by Matsumura in order to speed up the search for registered data by using the ID number as an index key to access the registered fingerprint data (column 11, line 48-54).

13. Regarding claim 14, a system for collating a fingerprint of a user (column 3, line 65-column 4, line 3), comprising: a computer (Figure 1) that generates a fingerprint collation (driving) instruction (column 5, line 10-16), wherein the computer has a first memory unit (24); a

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prism (6-1) that generates a fingerprint image of a user when the collation (driving) instruction is received from the computer and an air layer (see above discussion of claims 5 and 10) exists between a portion of a finger of the user and a top face of the prism (column 5, line 15-24); and a collating unit (23) that retrieves a fingerprint template (previously stored) of the user from a second memory unit and collates the fingerprint image of the user with the fingerprint template (column 5, line 41-54) when a fingerprint accepting flag (25-3) is set in the first memory unit (column 7, line 18-23). Matsumura discloses that an ID number or password is input as an index of the registered fingerprint data in order to speed up the search for registered data (column 11, line 44-48, see above discussion of claims 5 and 10).

14. Regarding claims 6 and 11, Matsumura discloses means (A/D 12) for converting the fingerprint image to a digital signal (column 3, line 55-62).

15. Regarding claims 8 and 13, Haneda discloses means (23) for outputting a result of the collation to the personal computer (column 5, line 50-55).

16. Regarding claim 15, Haneda discloses that the fingerprint accepting flag (25-3) is set when the fingerprint image is generated (column 7, line 18-23).

17. Regarding claim 17, Haneda discloses that the collating unit (23) sends the collation result to the computer (column 5, line 50-55).

18. Claims 7, 9, 12, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haneda in view of Matsumura as applied to claims 5, 10, and 14 above, and further in view of Senior.

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19. Regarding claims 7, 12, and 16, Haneda does not disclose means for resetting the fingerprint accepting flag when the collation between the fingerprint image and the fingerprint template has been completed. Senior discloses an authentication status flag that is set when a captured fingerprint matches those stored for the authorized user (column 8, line 52-57), which may be set for a long or indefinite period of time, or could be automatically unset after a given period of time (column 9, line 11-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to reset (unset) the fingerprint accepting flag when collation has been completed as taught by Senior in order to increase security if, for example, a user left the computer terminal for a period of time, the authentication flag could be reset so that no unauthorized users could access the terminal until it was re-authenticated (column 9, line 22-35).

20. Regarding claims 9 and 18, Haneda does not disclose that the second memory unit is an IC card. Senior discloses that a collator effects personal authentication by using registered fingerprint information (fingerprint database) supplied from an external storage medium (removable smart card or other data storage device; column 10, line 12-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an IC card as the second memory unit to store registered fingerprints as taught by Senior in order to allow the owner of the storage medium to be identified at any number of remote locations such as bank ATMs, automatic ticketing systems, electronic cash registers, dedicated information kiosks, etc. (column 10, line 53-67).

Conclusion

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21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J Hesseltine whose telephone number is 703-306-4069.

The examiner can normally be reached on Monday - Friday, 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

rjh
January 11, 2004

JINGGEWU
PRIMARY EXAMINER

